

Mr. Schwarz said that the distribution of insects is not as simple as other forms of life and that they do not follow the rules laid down by the students of bird and mammal life. In each order of insects there are different rules, and each should be studied by itself. Insects which are independent of plant life do not follow the distribution of the plants, but one must be careful that the insects are entirely independent, for while directly independent, they may feed on insects living on plants, as in the case of the Coccinellidæ. In such cases they must follow the plants, but, as is often found, the range of the insects will not be as great as that of the plants. In the future it may be found that insects like the Carabidæ, which are apparently independent of plants, may feed on a certain substance which requires the presence of certain plants and so be forced to follow the distribution of the plants.

Mr. Banks stated that insects which feed on plants are necessarily bound by their distribution, but that insects which do not, are not bound by the rules governing the distribution of plants, and cited many additional examples.

Dr. Hopkins said that in the study of distribution one must be exceedingly careful of the literature, which is full of misidentifications, and in this manner liable to lead the student astray.

—Under the heading "Short notes and exhibition of specimens," Mr. Crawford showed a copy of Dr. Schmiedeknecht's treatment of the Hymenopterous family Chalcididæ, just published in the "Genera Insectorum." He said:

"This formidable appearing quarto volume covers 550 pages, with 8 plates, of which the index consists of 50 pages. As stated in the introduction, the classification adopted by Dr. Ashmead is closely followed, the noticable changes consisting of calling the group a family instead of a superfamily and the adoption of 16 subfamilies instead of the 14 families of Ashmead. The additions in subfamilies are the Leucospidinæ, which are presented as distinct from the Chalcidinae (the two were considered as two subfamilies in the family Chalcididæ by Ashmead), and the Eupelminæ as distinct from the Encyrtinæ (Dr. Ashmead considering these two as subfamilies in the family Encyrtidæ). Otherwise the grouping is the same,

with the family name changed to subfamily and subfamily to tribe, etc.

"So closely, indeed, has Dr. Ashmead been followed that the tables are largely a translation of his, with the addition of a few of the genera described since they appeared. This slavish following of Dr. Ashmead has naturally resulted in the perpetuation of the obvious important errors in his tables and has also resulted in the present work being no advance over the former, a circumstance greatly to be regretted in a publication of this character and magnitude.

"In the table of subfamilies, the axillæ of the group called the Macrocentri are said to have the anterior margin straight and back of a line drawn from tegula to tegula. In many genera this margin is not straight and is produced forward, most noticeably so in such genera as *Tauaostigma*. Again, the Megastigminae are said to have but one spur on the posterior tibiæ, although as long ago as 1875 Dr. Gustav Mayr, in his revision of the Torymidæ of Europe, correctly stated that they had two. The antennæ of the genus *Lelaps* are said to be 14-jointed, with 2 ring joints, but I cannot find in any species examined more than one ring joint, making the antennæ only 13-jointed. In this connection it might be added that in the general characters given for the Chalcididæ Dr. Schmiedeknecht has stated that at most the group has 13 joints to the antennæ, although he has assigned 14 to *Lelaps* and gives the genera *Sacharissa* and *Eucharissa*, which are stated to have from 16 to 22.

"Another serious omission is the leaving out of a list of the genera which the author has not included in his tables. Dr. Ashmead gave such a list and none of the genera included in his list are accounted for in any manner, the student being led to believe that all the described genera have been tabulated. Among the genera which were entirely missed by Dr. Ashmead and not picked up by Dr. Schmiedeknecht may be given *Aditrochus* Rubsaamen, *Heptacondyla* Rondani, *Simoplerus* Foerster, and *Stichocrepis* Foerster. To a different category belong the following genera, which, although known to Dr. Ashmead, were omitted from his tables and not gathered up by the present author: *Aphytis* Howard; *Anozus* Foerster; *Chrysocharodes* Ashmead; *Chrysocharoideus* Ashmead.

"The whole group is said to be parastic, with the exception of the Isosomini, and yet the genus *Bruchophagus* Ashmead, which is phytophagous, is assigned to the Eurytomini, and the

three genera described by Dr. Mayr in the Perilampidæ which are gall makers and are entirely omitted.

"It has been stated above that only a few of the genera described since the appearance of Dr. Ashmead's tables have been included. Since some of the genera described in 1907 are included, it seems fair to assume that the work was not concluded until that year. Taking for a basis the Zoological Record, which is probably the most accessible of works which give a list of the genera and species described during the year, one finds that in 1904 there are 14 new genera, of which Dr. Schmiedeknecht includes 10; in 1905 the Record gives 10 genera, and 5 are included; in 1906, 15 genera are given and none of them are included; in 1907, 16 are given and 8 included. This makes a total of 23 genera included out of 55 given in the Zoological Record.

"From this it would appear that the literature since the time of Dr. Ashmead's tables was largely unknown territory to the author, and this belief is further strengthened by the omission of the various corrections to Dr. Ashmead's tables, which were published soon after the appearance of his work.

"Some of the generic names proposed by Dr. Ashmead in his work on the work on the Chalcidoidea were preoccupied and in the same year he gave new names to 6 of these genera, but the corrections are not in Dr. Schmiedeknecht's work. The genus *Sericops* is still retained in the Perilampidæ, although Dr. Mayr, in the Verh. Zool. Bot. Ges. Wien for 1905, transferred it to the Eurytomini. In the same periodical for the following year Dr. Mayr reduced his genus *Colyostichus* to a synonym of *Heterandrium* and also transferred *Aepocerus* Mayr to the Torymidæ; neither of these changes has been indicated.

"In 1906 Dr. W. A. Schulz published in his *Spolia Hymenopterologica* many corrections and additions to Della Torre's catalogue of the Hymenoptera, among them being a number of species of Chalcididæ described by Ashmead in 1888, and these have not been included. This brings one to the consideration of the list of species given by Schmiedeknecht. My card catalogue of species of chalcids described since Della Torre's catalogue is arranged with the genera alphabetically, and of the first 200 species in this list described between the date of closing of Della Torre's catalogue and the end of the year 1907, Dr. Schmiedeknecht has given only 103, which is grotesquely incomplete.

"Among the numerous minor errors may be cited that the type of the genus *Necocatolaccus* Ashmead is not *N. tylodermæ* Ashmead of the Mem. Carn. Mus., without description, but *Catolaccus tylodermæ* Ashmead, which was described years previously and which in this work is still cited under *Catolaccus*. The genera *Encyrtocephalus*, *Dinoura*, *Brachyscelidiphaga*, and *Diaulomorpha* were all described by Dr. Ashmead in the Proc. Linn. Soc. N. S.W. in 1900, together with their type species, and not in his classification of Chalcidoidea. A perusal of the alphabetical list of genera given by Dr. Ashmead at the end of his work would have saved Dr. Schmiedeknecht these as well as other errors in citation."

—Mr. Schwarz exhibited living and alcoholic specimens of the large coccid *Llaveia axin* Llave (Family Monophlebidae). The specimens were found by him last December at Tampico, Mexico, thickly covering the branches and thicker twigs of several different trees (the names of which could not be obtained) in a very circumscribed locality during the month of December. All bushes and lower vegetation beneath the infested trees were killed by the fungus growing on the saccharine exudation of the coccid. Some of the males were seen flying about the trees, but no coccinellid beetles or any other enemies of the coccid could be seen; nor were the coccids attended by ants. Living specimens kept in a tin box without food are still alive and excrete a much more copious cottony excretion than when the species was observed in nature. The paper label in the vial in which the alcoholic specimens were kept has acquired a beautiful pink color.

—Mr. Caudell said:

"Thunberg in 1815 erected the genus *Conocephalus* with several species under it. One of the originally included species, *hemipterus* n. sp., has quoted under it as a synonym the *Gryllus* (*Tettigonia*) *conocephalus* of Linnæus. The original inclusion of a species *conocephalus* in the genus of the same spelling, even though in synonymy, is considered as coming under the rule of type selection by absolute tautonymy, and thus *conocephalus* Linnæus, of which the later described *hemipterus* Thunberg is a synonym, is the type of *Conocephalus* Thunberg. This fact has been quite universally conceded for some years and cannot well be ignored. Otherwise I would ear-